Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Cancelled):

Claim 2 (Currently Amended): ~~A~~ The method according to Claim 20~~claim 1~~, wherein said step of sequentially adjusting further comprises:

~~adjustment apparatus searches for an optimum value by~~ sequentially ~~changing~~adjusting the optical axis in accordance with a genetic algorithm.

Claim 3 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said step of sequentially adjusting further comprises:

~~after sequentially changing the optical axis in accordance with a genetic algorithm~~, ~~said adjustment apparatus searches~~ searching for an optimum evaluation value in accordance with a hill-climbing method.

Claim 4 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said step of sequentially adjusting further comprises:

~~said adjustment apparatus searches~~ searching for an optimum value by sequentially ~~changing~~adjusting the optical axis in accordance with a simulated annealing method.

Claims 5-8 (Cancelled)

Claim 9 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said step of sequentially adjusting further comprises:

~~said adjustment apparatus uses~~ evaluating ~~light~~ an intensity ~~as the evaluation value for~~ of light transmitted through the light transmission path.

Claim 10 (Cancelled)

Claim 11 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said plurality of optical components ~~include~~ comprises:

an optical fiber.

Claim 12 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said plurality of optical components ~~include~~ comprises:

an optical fiber array.

Claim 13 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said plurality of optical components ~~include~~ comprises:

a lens.

Claim 14 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said plurality of optical components ~~include~~ comprises:

a light-emitting element.

Claim 15 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said plurality of optical components ~~includes~~ comprises:

a light-receiving element.

Claim 16 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said plurality of optical components ~~include~~ comprises:

an optical waveguide.

Claim 17 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, wherein said plurality of optical components ~~include~~ comprises:

a mirror.

Claim 18 (Currently Amended): The ~~A~~ method according to Claim 20~~claim 1~~, aid step of sequentially adjusting further comprises:

sequentially adjusting an optical axis with~~wherein said adjustment apparatus includes~~ an electronic computer and a recording medium that can be read by said electronic computer.

Claim 19 (Currently Amended): The~~A storage medium in the~~ method according to ~~claims~~ Claim 18, ~~that~~ wherein said sequentially adjusting an optical axis with an electronic computer and a recording medium comprises:

~~is recorded with~~executing an adjustment program that ~~is executed by the electronic computer to use~~includes a probabilistic search technique configured to search for an optical axis of one or a plurality of optical components ~~that provides~~so as to provide an optimum evaluation value with respect to light transmitted through the light transmission path.

Claim 20 (New): A method for adjusting an optical axis of a light transmission path that includes a plurality of optical components, comprising:

sequentially adjusting an optical axis of a designated single optical component, or multiple optical components, among said plurality of optical components in accordance with a probabilistic search technique;

measuring optical axial coordinate values while sequentially adjusting said optical axis to produce a plurality of measured optical axial coordinate values;

evaluating an intensity of light transmitted through said light transmission path at a time of measurement to produce a plurality of evaluation values;

storing in a memory a plurality of value pairs, each of said plurality of value pairs including a measured optical axial coordinate value and a corresponding evaluation value; and

replacing a solution candidate of the probabilistic search technique with a value pair having a largest evaluation value.

Claim 21 (New): A method for adjusting an optical axis of a light transmission path that includes a plurality of optical components, comprising:

sequentially adjusting an optical axis of a designated single optical component, or multiple optical components, among said plurality of optical components in accordance with a probabilistic search technique; and

evaluating a positional deviation of light transmitted through said light transmission path with respect to a target light irradiation position while sequentially adjusting said optical axis so as to create an evaluation value.

Claim 22 (New): The method according to Claim 21, wherein said step of sequentially adjusting further comprises:

sequentially adjusting the optical axis in accordance with a genetic algorithm.

Claim 23 (New): The method according to Claim 21, wherein said step of sequentially adjusting further comprises:

searching for an optimum evaluation value in accordance with a hill-climbing method.

Claim 24 (New): The method according to Claim 21, wherein said step of sequentially adjusting further comprises:

sequentially adjusting the optical axis in accordance with a simulated annealing method.

Claim 25 (New): The method according to Claim 21, wherein said step of sequentially adjusting further comprises:

measuring optical axial coordinate values while sequentially adjusting said optical axis to produce a plurality of measured optical axial coordinate values;

storing in a memory a plurality of value pairs, each of said plurality of value pairs including a measured optical axial coordinate value and a corresponding evaluation value; and

selecting a value pair having a largest evaluation value as a local optimum solution.

Claim 26 (New): The method according to Claim 21, wherein said plurality of optical components comprises:

a mirror.

Claim 27 (New): The method according to Claim 21, wherein said said step of sequentially adjusting further comprises:

sequentially adjusting with an electronic computer and a recording medium that can be read by said electronic computer.

Claim 28 (New): The method according to Claim 27, wherein said sequentially adjusting with an electronic computer and a recording medium comprises:

executing an adjustment program that includes a probabilistic search technique configured to search for an optical axis of one or a plurality of optical components so as to provide an optimum evaluation value with respect to light transmitted through the light transmission path.

Claim 29 (New): An apparatus configured to adjust an optical axis of a light transmission path that includes a plurality of optical components, comprising:

means for sequentially adjusting an optical axis of a designated single optical component, or multiple optical components, among said plurality of optical components in accordance with a probabilistic search technique;

means for measuring optical axial coordinate values while sequentially adjusting said optical axis to produce a plurality of measured optical axial coordinate values;

means for evaluating an intensity of light transmitted through said light transmission path at a time of measurement so as to produce a plurality of evaluation values;

means for storing in a memory a plurality of value pairs, each of said plurality of value pairs including a measured optical axial coordinate value and a corresponding evaluation value; and

means for replacing a solution candidate of the probabilistic search technique with a value pair having a largest evaluation value.

Claim 30 (New): An apparatus configured to adjust an optical axis of a light transmission path that includes a plurality of optical components, comprising:

means for sequentially adjusting an optical axis of a designated single optical component, or multiple optical components, among said plurality of optical components in accordance with a probabilistic search technique; and

means for evaluating a positional deviation of light transmitted through said light transmission path with respect to a target light irradiation position while sequentially adjusting said optical axis so as to produce an evaluation value.

Claim 31 (New): An apparatus configured to adjust an optical axis of a light transmission path that includes a plurality of optical components, comprising:

an adjuster configured to sequentially adjust an optical axis of a designated single optical component, or multiple optical components, among said plurality of optical components in accordance with a probabilistic search technique;

a measurer configured to measure optical axial coordinate values while said adjuster sequentially adjusts said optical axis and to produce a plurality of measured optical axial coordinate values;

an evaluator configured to evaluate an intensity of light transmitted through said light transmission path at a time of measurement and to produce a plurality of evaluation values;

a memory configured to store a plurality of value pairs, each of said plurality of value pairs including a measured optical axial coordinate value and a corresponding evaluation value; and

an updater configured to replace a solution candidate of the probabilistic search technique with a value pair having a largest evaluation value.

Claim 32 (New): An apparatus configured to adjust an optical axis of a light transmission path that includes a plurality of optical components, comprising:

an adjuster configured to sequentially adjust an optical axis of a designated single optical component, or multiple optical components, among said plurality of optical components in accordance with a probabilistic search technique; and

an evaluator configured to evaluate a positional deviation of light transmitted through said light transmission path with respect to a target light irradiation position while said adjuster sequentially adjusts said optical axis and to produce an evaluation value.